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WHAT IS CLAIMED IS:

1. A microstrip line comprising:
 - a ground conductor layer;
 - a dielectric layer formed on the ground conductor layer; and
 - a linear conductor layer formed on the dielectric layer to have a linear configuration, the linear conductor layer having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in which the linear conductor layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.
2. The microstrip line of claim 1, further comprising a substrate for holding the ground conductor layer, the substrate being located under the ground conductor layer and composed of a dielectric material, wherein the dielectric layer has a dielectric constant higher than a dielectric constant of the substrate.
3. The microstrip line of claim 1, wherein the dielectric layer contains a titanium oxide.
4. The microstrip line of claim 3, wherein the titanium oxide is a strontium titanate.
5. A method for fabricating a microstrip line, the method comprising the steps of:
 - 25 forming a ground conductor layer on a substrate

composed of a dielectric material;

forming a dielectric layer on the ground conductor
layer;

5 forming a mask pattern having a linear opening on the
dielectric layer;

depositing a layer forming a linear conductor layer on
the mask pattern including the opening; and

10 patterning the linear-conductor-layer forming layer
such that the linear-conductor-layer forming layer on the
mask pattern has a width larger than a width of the opening.

15 6. An inductor element comprising a microstrip line
composed of a ground conductor layer, a dielectric layer
formed on the ground conductor layer, and a linear conductor
layer formed on the dielectric layer to have a linear
configuration,

20 the linear conductor layer being formed in a spiral
configuration in a plane parallel to the dielectric layer and
having a wider portion in an upper part of a cross section
thereof taken in a direction perpendicular to a direction in
which the linear conductor layer extends and a narrower
portion in a lower part of the cross section, the narrower
portion being smaller in width than the wider portion.

25 7. An RF semiconductor device comprising:
an active element formed in a substrate; and
a microstrip line formed on the substrate to propagate

input/output signals to and from the active element,

the microstrip line being composed of a ground conductor layer formed on the substrate, a dielectric layer formed on the ground conductor layer, and a linear conductor 5 layer formed on the dielectric layer to have a linear configuration,

the linear conductor layer having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in which the linear conductor 10 layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.

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